An Update on Marine Protected Area Management Capacity in the Caribbean, 2011-2017

Actualizando el Conocimiento de la Capacidad de Gestión de Áreas Marinas Protegidas en el Caribe, 2011-2017

Mise à Jour de la Connaissance de la Capacité de Gestion des Aires Marines Protégées dans les Caraïbes, 2011-2017

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ABSTRACT

In 2010-2011, the Gulf and Caribbean Fisheries Institute (GCFI) and the Caribbean Marine Protected Areas Network and Forum (CaMPAM) with the U.S. National Oceanic and Atmospheric Administration's (NOAA) Coral Reef Conservation Program first undertook an assessment of management capacity among priority coral reef marine protected areas (MPAs) in the Caribbean region. A specialized tool was developed for facilitated self-evaluation of management capacity by MPA managers, addressing some 20 distinct elements of effective MPA management programs. The findings highlighted regional capacity building needs associated with sustainable financing, law enforcement, strategic management planning and implementation, outreach and communications, and both socio-economic and bio-physical monitoring. Now six years later, and following initiatives to build MPA management capacity through the MPAConnect network and many partners, the assessment was repeated in 2017 and the findings updated. In this paper, we provide an update on the status of management capacity at 30 Caribbean MPAs in 10 countries and territories, we explore change and we present findings about the current top-priority needs of Caribbean MPA managers for capacity building.

KEYWORDS: MPA, management, capacity building

INTRODUCTION

MPAConnect is a learning network of MPA managers and professionals in the Caribbean that works to increase the effectiveness of MPA management by addressing specific capacity needs of individual MPAs through a variety of means, including regional peer-to-peer workshops, site-specific technical support, learning exchanges and direct grant funding. Since 2010, this partnership between the NOAA Coral Reef Conservation Program and GCFI has addressed MPA management capacity by establishing a network of some 30 MPAs from 10 countries and territories in the Wider Caribbean region. The participating countries were strategically selected according to selection criteria and the MPAs were officially nominated by their national agencies according to clear criteria, as shown in Figure 1.

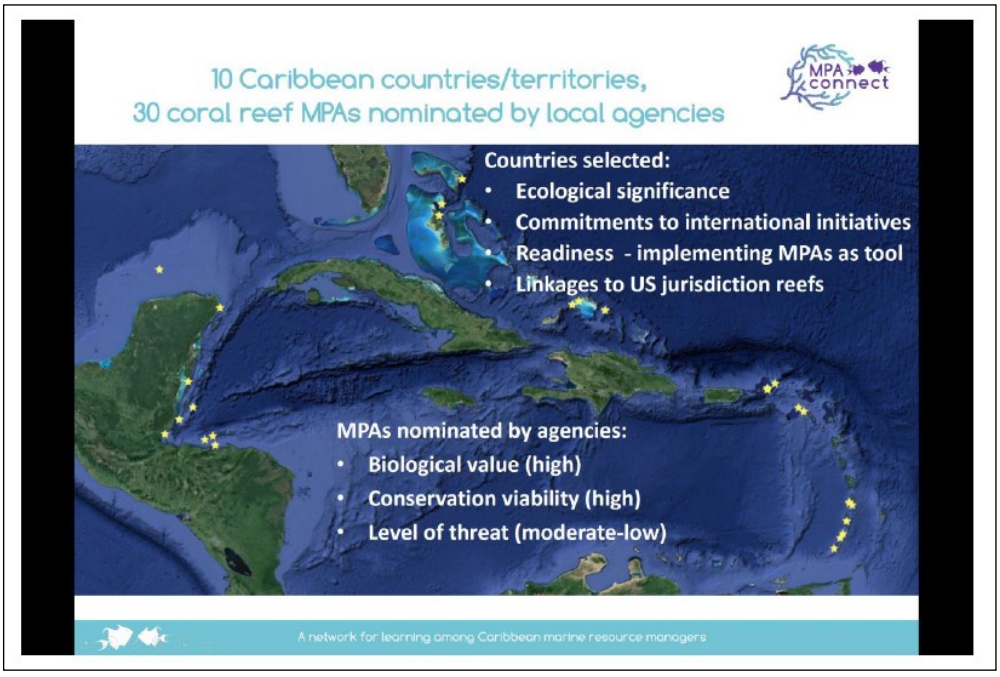

Figure 1. Priority MPAs and selection criteria for MPAConnect.

The capacity building initiatives by MPAConnect are founded on a management capacity tool that translates day-to-day management challenges into targeted capacity building approaches to help MPA managers meet conservation commitments. Based on detailed assessments in 2011 and 2017 which apply a specialized tool for facilitated self-evaluation of management capacity by MPA managers, the initiative works to understand and address capacity as related to 20 distinct elements of effective MPA management programs. It also seeks to show change and progress in MPA management capacity building. The capacity assessment is a guided self-assessment that asks MPA managers to rank their capacity for MPA management according to three tiers for each management element. We also gather a depth of information on each management element, about the rationale for selecting the tier, the MPA managers' needs to make progress and about the nature of change since the first management capacity assessment. The full capacity assessment tool and user guide can be found in English and Spanish at https://www.gcfi.org/initiatives/mpa-capacity-program/

RESULTS AND DISCUSSION

In 2011 we found that the top-six highest priority capacity building needs of the participating Caribbean MPA managers were (in order of highest priority): law enforcement, sustainable financing, socio-economic monitoring, bio-physical monitoring, management planning and outreach/education (Gombos et al. 2011). Figure 2 shows the complete 2011 results for priority capacity building needs. In 2017 we found that the top-six highest priority capacity building needs of the participating Caribbean MPA managers were (in order of highest priority):

i) Sustainable financing,
ii) Law enforcement,
iii) Bio-physical monitoring,
iv) Bisheries management,
v) Outreach/education, and
vi) Management planning.

Figure 3 shows the complete 2017 results for priority capacity building needs.

Since 2011, the MPAConnect network has sought to address the highest priority needs through a series of peer-

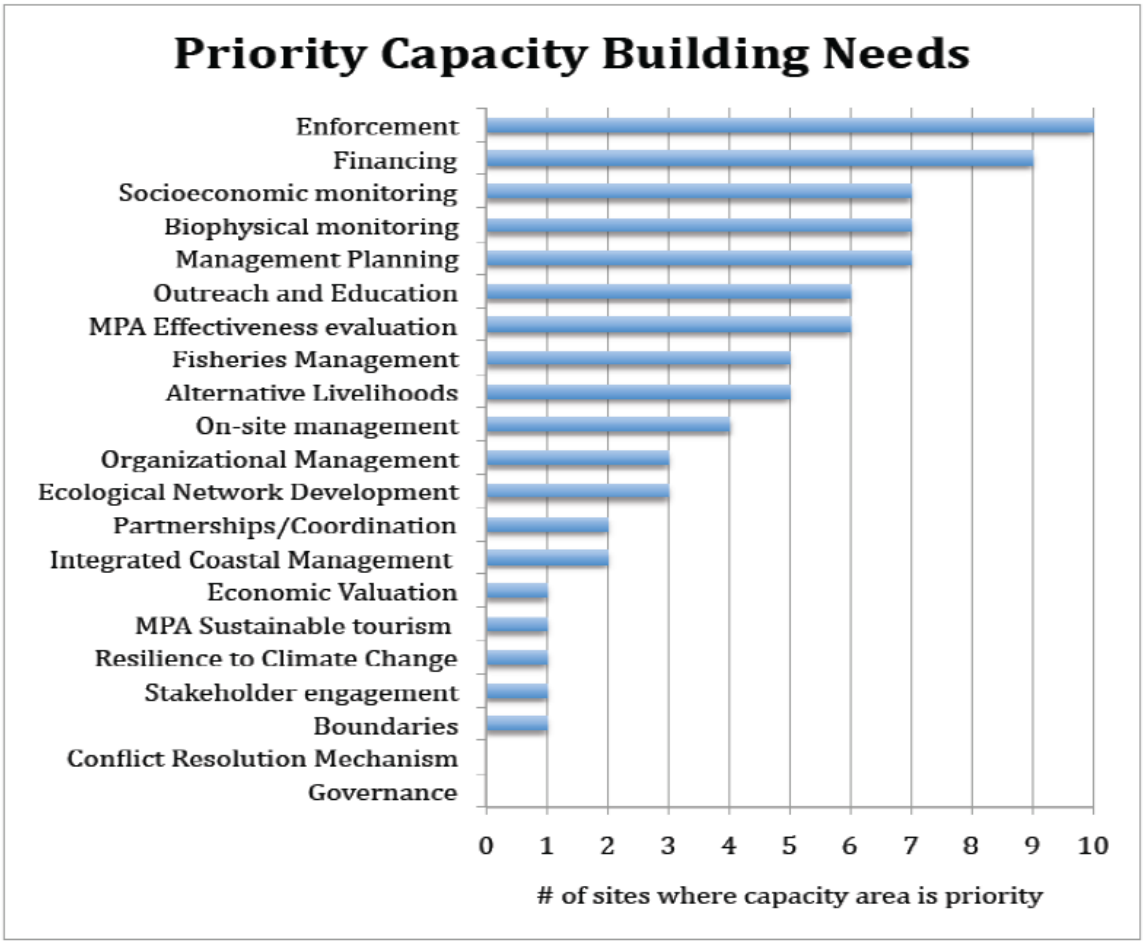

Figure 2. 2011 Priority capacity building needs (n = 26 MPAs).

to-peer learning exchanges, which are regional workshops focused in depth on sharing about a priority topic, and we followed these up with site-specific support to enable the implementation of new ideas and best practices at home. In the process MPAConnect has become established as a regional network among Caribbean MPA managers. To help assess the progress that has been made in MPA management capacity in this time we compared change in capacity for the top-six priority needs (Figure 4).

Key findings in relation to the highest priority needs are as follows:

Law Enforcement

Caribbean MPAs are making progress in building their capacity for law enforcement. Our strategy of implementing local marine law enforcement training for MPA managers and field officers jointly with their local law enforcement partners, and tailored to national laws

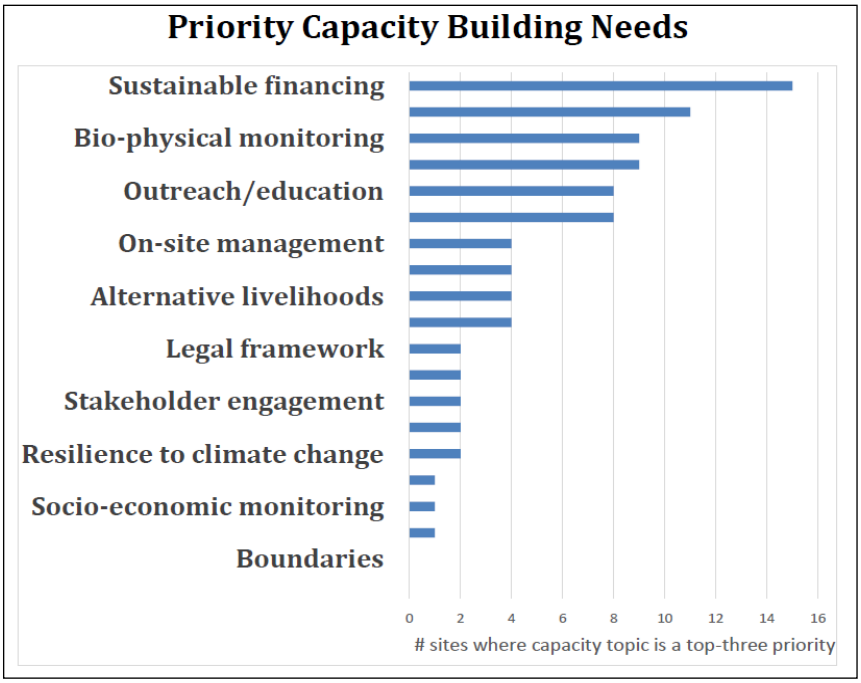

Figure 3. 2017 Priority capacity building needs (n = 29 MPAs).

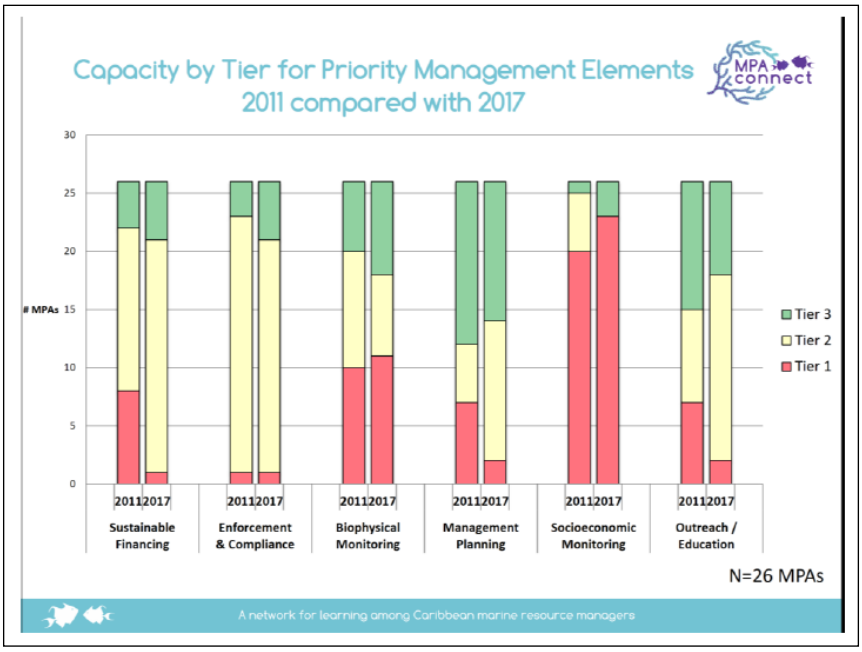

Figure 4. Change in Caribbean MPA management capacity,, 2011 - 2017.

and realities, is producing more active and consistent enforcement of MPA rules and regulations. Compared with 2011, in 2017 nearly twice as many MPAs have active and consistent enforcement programs. However, we note a prevalence of Tier 2 responses, indicating inconsistent enforcement of laws and regulations. We know that some of the participating MPAs have experienced significant budget cuts that have affected field staff and patrols. Despite progressing in terms of their knowledge of enforcement, building crucial links with local enforcement partners, and taking significant steps towards strategic enforcement planning, the reality of limited resources is likely limiting the application of any enhanced enforcement capacity.

Sustainable Financing

In 2017 fewer MPAs reported to be at Tier 1 with no reliable sources of financing. However, there was little change in MPAs at Tier 3 that are implementing a sustainable financing plan. This indicates that despite various regional initiatives to address sustainable financing, the financing issue is still far from resolved for Caribbean MPAs. The MPAConnect capacity building approach has so far taught us that financing requires creative solutions tailored to individual sites, and accordingly, site-specific projects are needed to build capacity for sustainable MPA financing. Ongoing projects are assisting managers to implement long term MPA financing mechanisms by capturing a greater share of market opportunities to collect MPA contributions from users, by re-establishing a national conservation fund and by better incorporating MPA financing needs into budget allocations.

Socio-economic Monitoring

Since 2011 there has been an increase in the number of sites at Tier 3 with socio-economic monitoring programs and using data to inform management. However, the predominance of Tier 1 responses indicates that most socio-economic monitoring takes the shape of ad hoc surveys which are reported to be mostly project or grant driven. The rationale provided by participating MPAs might be insightful for the social science community: there is a perceived large investment needed to undertake socio-economic monitoring, and Caribbean MPA managers are not seeing the benefits of potentially actionable information which could be obtained from a well-designed program of socio-economic monitoring for their MPAs.

Bio-physical Monitoring

The dominance of Tier 1-2 responses indicates a prevalence of ad hoc studies and some baseline data, and a lack of repeated observation that would constitute a program of monitoring. The rationale provided by participating MPAs suggests that external partners with short-term funding are driving much bio-physical monitoring in the Caribbean region and implementing projects without building local management capacity. A lesson in this area is to build local capacity to ensure the continuation of monitoring and repeated assessment. The regional map of capacity for bio-physical monitoring (Figure 5) highlights progress in the MAR region and shows a potential geographic focus for future efforts to target needs in the eastern Caribbean.

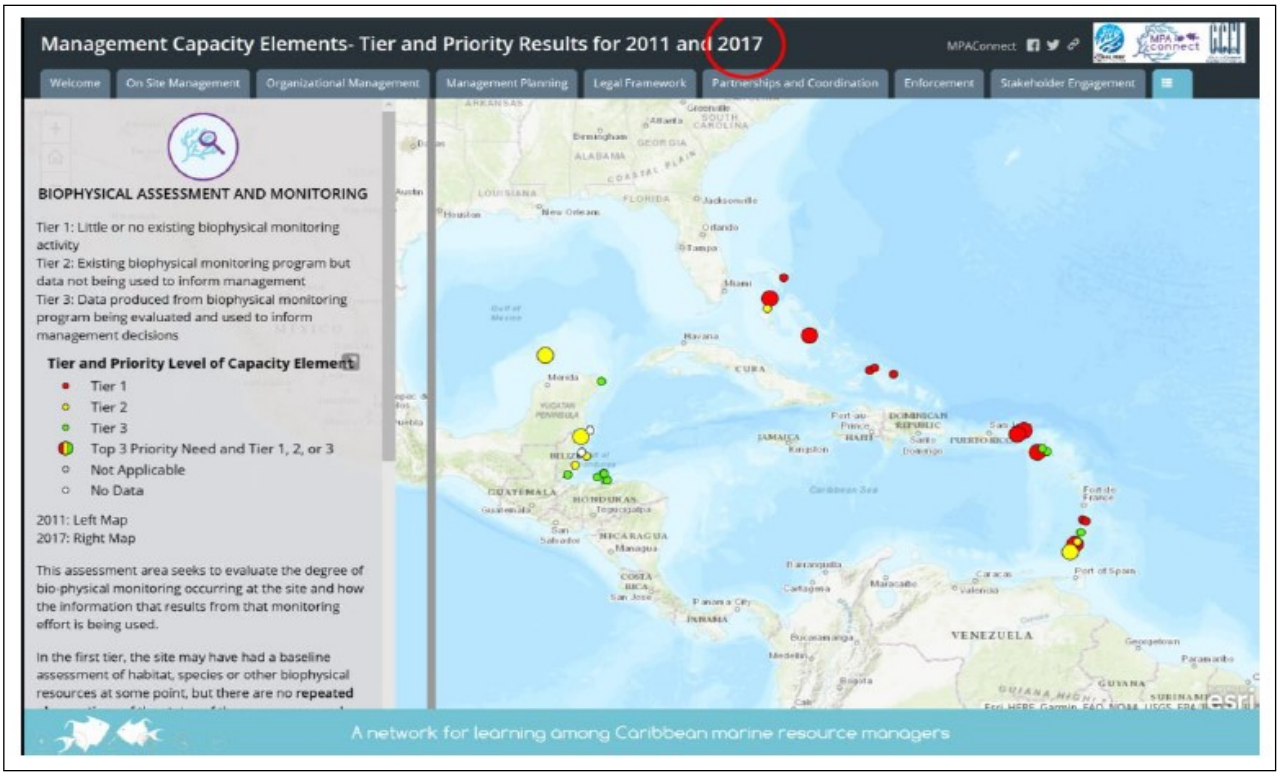

Figure 5. Regional MPA capacity for bio-physical monitoring shown in tabbed StoryMap.

Management Planning

MPAConnect is working to ensure that all member sites are implementing an approved management plan. This is considered one of the key components of a successful MPA management program and we are helping managers to re-evaluate, update and re-shape their management plans to meet the challenge of achieving their objectives. In 2017 we found that there are fewer MPAs without a management plan, which is consistent with ongoing efforts by GCFI and NOAA to address site-specific gaps in management planning. However, there were also found to be more MPAs in 2017 that reported having draft or outdated management plans, or plans that are not necessarily approved. With the passage of time it can be expected that a proportion of management plans will always need updating, which suggests a potential direction for capacity building to address this specific need.

Outreach/Education

In 2011 more sites reported that they were at Tier 3 (with outreach and education programs with various activities and strategies focused on the MPA that helps achieve the MPA's goals and objectives), which suggests that more managers were previously feeling comfortable with this topic than they now are in 2017. Six years after the first assessment, it appears that the increasing demands of communications on Caribbean MPAs are weighing more heavily on managers. It might also be that exposure through the MPAConnect network to the communications successes of other MPAs has raised the bar for performance of MPA outreach/education.

Fisheries Management

In 2017 this topic emerged as a new top priority capacity building need of Caribbean MPA managers, ranked in third place overall, up from eighth place in 2011. The comments of the participating MPA managers reveal a range of mixed responses and suggest that this topic will lend itself to a future peer-to-peer capacity building activity by MPAConnect.

MPA managers confirmed to us that they wish to receive technical support to build their management capacity – Figure 6 shows that the preferred capacity building approaches of Caribbean MPA managers are (in order of priority): technical support, training, more staff and learning exchanges. Interest in higher education courses has decreased since 2011.

For the first time in 2017 we presented the results of the MPA management capacity assessment in graphical format using ESRI ArcGIS which permitted the application of an innovative communications approach best communicate findings about Caribbean MPA management capacity. We showed MPA-specific results on a series of detailed maps (Figure 7) and regional capacity findings using a tabbed map layout (as in Figure 5). The StoryMaps approach to information sharing is proving insightful for network coordinators and guiding the implementation of capacity building assistance and networking efforts across the region. The StoryMaps approach is also proving user friendly for MPA managers to review their own capacity and to identify potential MPA management mentors in the region that match their needs. A further StoryMap has been developed that catalogues capacity building initiatives implemented by MPAConnect and partners or desired by MPA managers to address the priority needs of the participating MPAs (Figure 8).

CONCLUSIONS

Although every site has a unique story, overall we've seen that with exposure to best regional practices, MPA managers have had the confidence to apply something new. Sometimes they've received some small technical support which has been complemented with project funding and enabled them to meaningfully build their management capacity. At the same time, some sites have experienced negative change arising from budget cuts, high levels of staff turnover, the termination of major grants, or new projects that sometimes distract focus from key management needs. Meanwhile, other sites are making gradual progress and a longer time frame will show results once innovative financing approaches start to deliver benefits and as ecological benefits accrue.

To date the MPAConnect network has helped priority Caribbean MPAs to increase their management capacity in relation to top priority needs, while also following up on

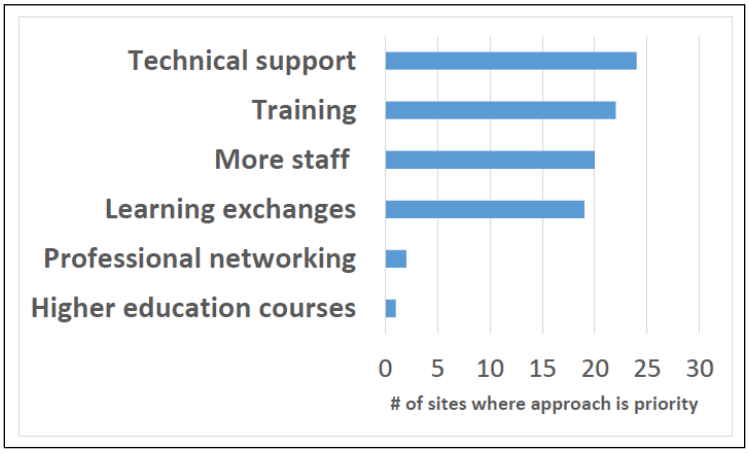

Figure 6. Preferred capacity building approaches, 2017 (n = 29 MPAs).

site-specific management capacity needs and establishing a close-knit network between coral reef MPA managers and organizations with MPA management expertise. The assessment approach is succeeding in responding to local management capacity needs in Wider Caribbean and the updated capacity assessment is supporting further planning and informing future investments in MPA management capacity building in the Caribbean, both by NOAA's Coral Reef Conservation Program and through GCFI's work with regional partners.

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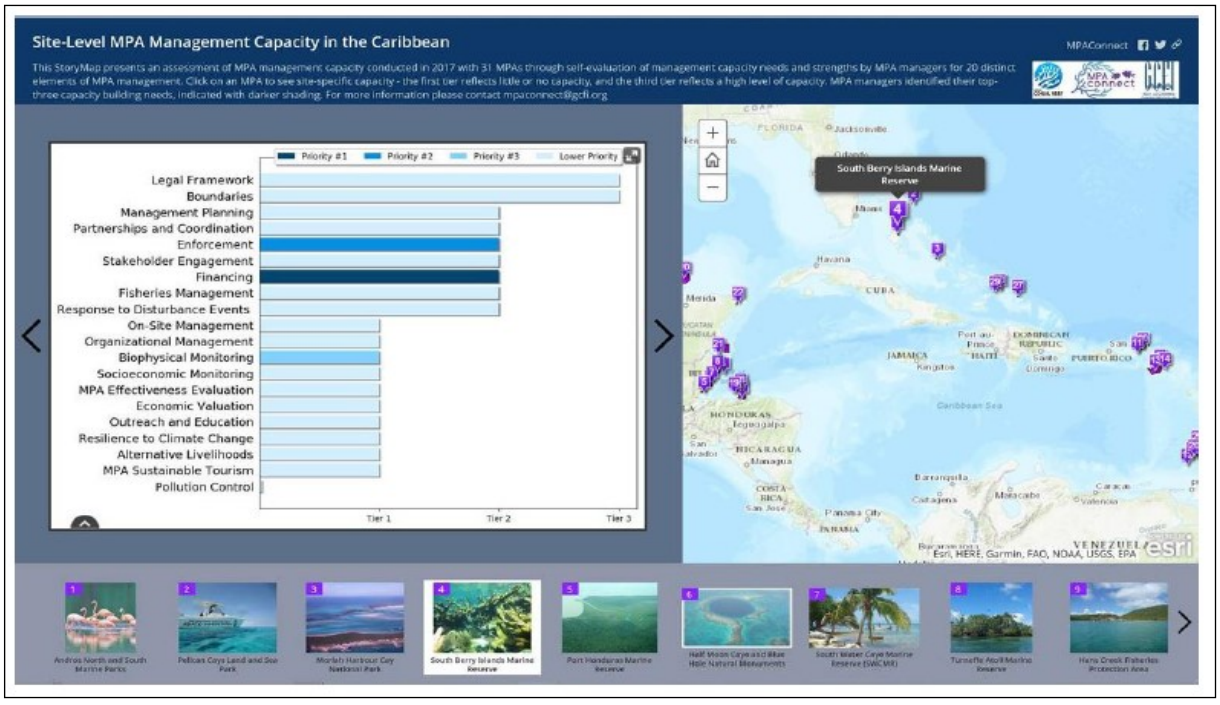

Figure 7. Sample detailed MPA capacity StoryMap.

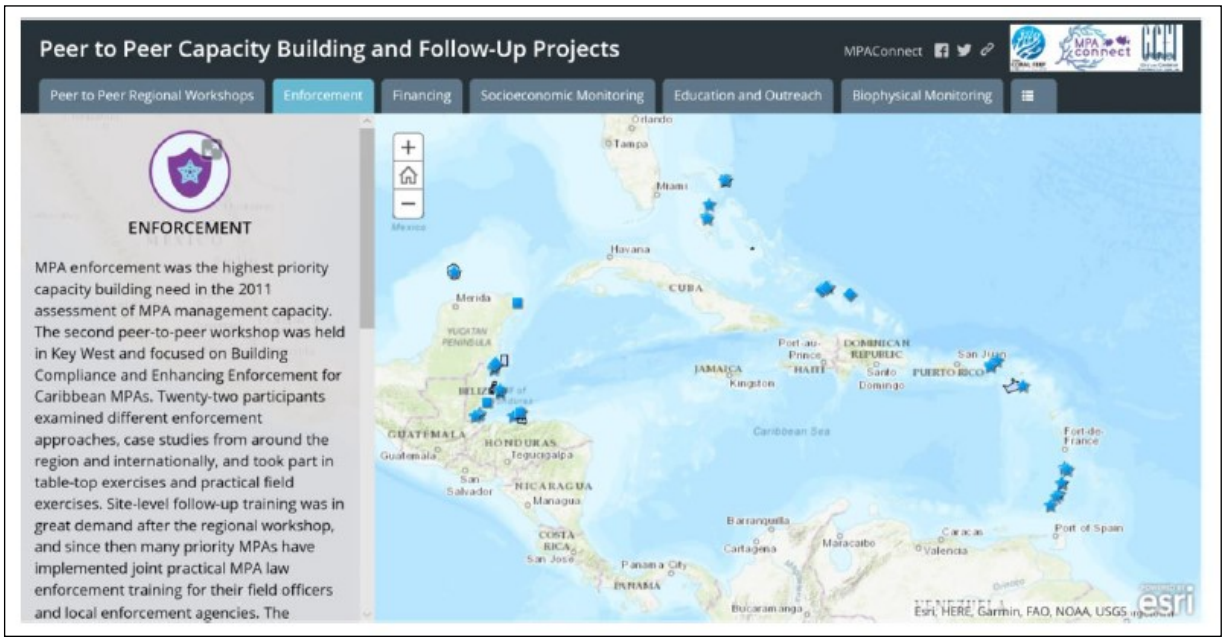

Figure 8. Capacity building initiatives by MPAConnect and partners shown using StoryMap.